



Division of the History of Chemistry
American Chemical Society

Citation for Chemical Breakthrough

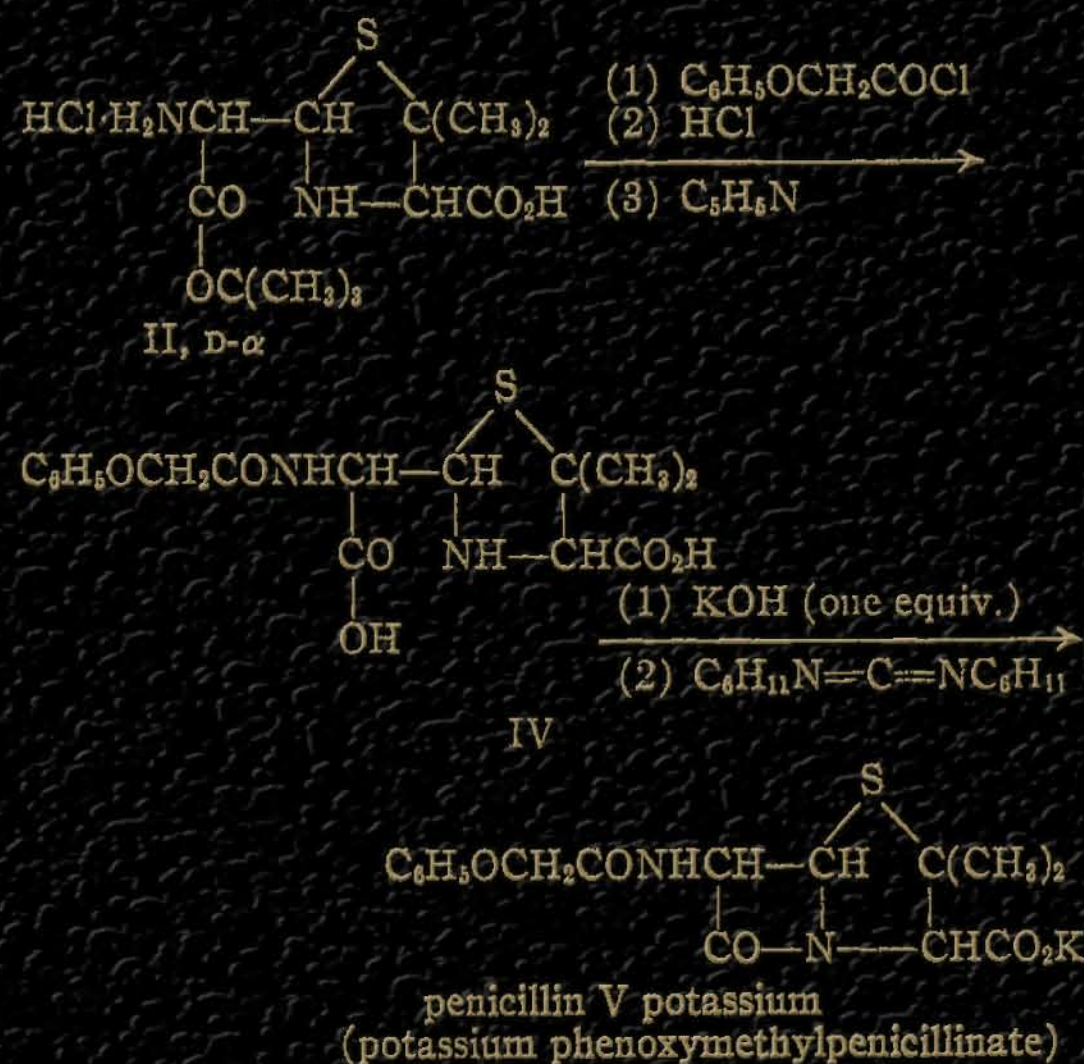


J. Am. Chem. Soc. 1957, 79, 1262-1263.

THE TOTAL SYNTHESIS OF PENICILLIN V

Sir:

The ability of aliphatic carbodiimides to form amide bonds in aqueous solution directly from the amine and carboxyl components under very mild conditions¹ suggested the use of these reagents for the cyclization of a pencilloic acid to a penicillin. We have prepared by total synthesis in good overall yield the pencilloic acid corresponding to penicillin V (phenoxymethylpenicillin).



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